

**CHEROKEE NATION - ITEC**

**Clean Air Act, Section 103 Grant  
(XA-96674301-1 FY10)**

**FY10 First Quarter Report  
10-1-09 thru 12-31-09**

**submitted to the**

**Clean Air Section  
U.S. Environmental Protection Agency, Region VI**

**Dallas, Texas**

**for the**

**Inter-Tribal Environmental Council (ITEC)**

**prepared by the**

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## **CHEROKEE NATION - ITEC**

### **Grant Information**

#### **Quality Assurance Dates:**

<b>Criteria:</b>	<b>Approved January 9, 2009 Extended to March 9, 2010</b>
<b>PM2.5:</b>	<b>Approved July 17<sup>th</sup>, 2009 Currently Being Consolidated</b>
<b>IMPROVE:</b>	<b>National Program Approved</b>
<b>CASTNet:</b>	<b>National Program Approved</b>
<b>Mercury (MDN):</b>	<b>National Program Approved</b>
<b>National Trends:</b>	<b>National Program Approved</b>
<b>AMNet (Tekran):</b>	<b>Submitted to EPA CAMD</b>
<b>Toxics:</b>	<b>Approved February 13, 2009</b>
<b>CNEP QMP:</b>	<b>Approved May, 28th 2009</b>

## **Task 1: Criteria Pollutants & Meteorological Ambient Air Monitoring Quarterly Report**

Criteria QAPP due to EPA March 9<sup>th</sup> 2010. (Extended from January 9<sup>th</sup>.)

Equipment operational during this quarter:

**Tahlequah Shelter** (40-021-9002):

Ozone, & meteorological equipment

**Newkirk Shelter** (IMPROVE) (40-071-9010):

Ozone, NOy, & meteorological equipment

**Pryor Shelter** (40-097-9014):

Ozone, NOy, & meteorological equipment

**Stilwell Shelter** (NCORE-CASTNet) (40-001-9009):

Ozone, NOy, CASTNet dry deposition filter pack, mercury deposition network (MDN), meteorological equipment, and continuous & non-continuous ammonia sampling.

**Marble City Shelter** (40-135-9015):

Ozone, PM2.5 (2) & meteorological equipment

Ozone instruments were taken offline at each site for two weeks for the annual maintenance and calibrations. All instruments will be ready for the March 1<sup>st</sup> start of ozone season.

Solicited bids for upgrades to the Pryor air monitoring station. Upgrades will include; ozone, NOy, datalogger, and calibration systems. Installation scheduled for the first week of March 2010.

EPA provided CNEP with the last TTP audit results. All sites were within specifications. John Lay (EPA) e-mailed all results to CN and EPA.

Updated all audit forms for all sites.

3<sup>rd</sup> quarter AQS data has been entered for all criteria network instruments.

4<sup>th</sup> quarter AQS data is being processed for entry by 4-1-10.

Tentative plans underway to move the Marble City shelter to Roland Oklahoma. This may include purchase of a new MetOne BAM1020 continuous PM2.5 analyzer.

### ***Task 2: IMPROVE Monitoring Quarterly Report***

IMPROVE sampling was conducted on a 1/3 sampling schedule. Samples are being collected every Tuesday.

CNEP IMPROVE data and reports are available at:

[http://vista.cira.colostate.edu/IMPROVE/Data/IMPROVE/improve\\_data.htm](http://vista.cira.colostate.edu/IMPROVE/Data/IMPROVE/improve_data.htm)

Plans are underway to move the IMPROVE samplers from Newkirk to the Stilwell NCORE site. The IMPROVE samplers will add the speciation component needed for NCORE siting.

CNEP contacted UC Davis (Chuck McDade) about coordination and relocation of the IMPROVE site from Newkirk to Stilwell.

CNEP is currently preparing an IMPROVE Network site assessment form for the relocation of the site to Stilwell.

### ***Task 3: CASTNet monitoring Quarterly Report***

Quarterly data capture and completion was 100%.

Plans are underway to upgrade the onsite CASTNet ESC 8816 logger to an ESC 8832.

The Nitrolux ammonia instrument located in the CASTNet building was returned to the vendor for the annual calibration. Quarterly data capture for this instrument was 35%.

Illinois State ammonia sampling project continues at Stilwell CASTNet.

University of Pittsburg ALPHA ammonia sampling project continues at CASTNet.

### ***Task 4: NCORE Trace Gas Monitoring Quarterly Report***

The NCORE site is operational and collecting data.

Quarterly maintenance was conducted on each NCORE instrument.

The NCORE particulate sampling platform was completed during this quarter. This includes deck membrane and electrical work.

Research is currently underway to suspend all filter based PM activities and install a continuous MetOne BAM for PM10 measurements. The current onsite PM2.5 BAM and the proposed PM10 BAM will provide for PM Course measurements needed for the NCORE SITE. Currently CNEP is utilizing a collocated pair of RP2025 PM-2.5-10 instruments to obtain PM Course.



### **Task 5: Mercury Deposition Network (MDN) Monitoring Quarterly Report**

The Stilwell MDN sampler is online with samples being collected every Tuesday.

Shipped N-CON collector to NADP for heater upgrade in November 2009. ✓

Stilwell is the only CNEP MDN site currently online. Previous year's site data may be obtained through the links below.

CNEP staff replaced the LODA Electronics Aerochem metrics collector with the NCON collector approved by NADP. The new collector has less moving parts and a more efficient heating element.

Site specific MDN data reports and yearly summaries are available at the following website:

<http://nadp.sws.uiuc.edu/sites/siteinfo.asp?id=OK15&net=MDN>

<http://nadp.sws.uiuc.edu/sites/siteinfo.asp?id=OK99&net=MDN>

<http://nadp.sws.uiuc.edu/sites/siteinfo.asp?id=OK19&net=MDN>

### **Task 6: National Mercury Initiative Quarterly Report**

The National Mercury Initiative is now the "Atmospheric Mercury Network – AMNet"

The CNEP site consists of the AMNet program Tekran model 2537A analyzer with model 1130 and 1135 speciation units.

Data recovery for the quarter is 90%.

CNEP was awarded a contract with EPA Clean Air Markets Division for supplemental funding to assist in operating the AMNet Tekran site. The contract began on 1-1-10 (CY10; \$65,002). - *waiting for tech comments* ✓

Despite being funded by EPA CAMD, CNEP will continue to list and detail major milestones of this project in future quarterly reports to EPA for the benefit of the technical staff.

*Activity not funded w/103 funds*

### **Task 7: Mobile Particulate Monitoring and Ozone Monitoring Quarterly Report**

CNEP will continue to work with the Osage Nation in FY10-11 with PM sampling.

A monitoring memorandum of agreement was signed by CNEP and Osage Nation. Copies were provided to EPA.

CNEP has provided Osage Nation assistance with technical siting and logistical needs.

CNEP and Osage Nation chose a site located near the Title VI Senior Housing Complex in Pawhuska, Oklahoma.

CNEP provided Osage Nation with the necessary electrical boxes for power connections.

The start date for sampling was 1-13-10.

Annual maintenance performed on the ozone analyzer inside the mobile unit.

Provided Osage Nation an AirNow account information for data viewing and sharing.

Provided Osage Nation with a sampler training and troubleshooting course.

#### ***Task 8: Technical Assistance to Tribes Quarterly Report***

Assisted Jason Pruner with Delaware Nation with AQS & PA data upload on October 14<sup>th</sup> 2009.

Assisted Jason Pruner with Delaware Nation over the phone with AQS PM data upload on November 12 2009.

Performed independent audits for Sac and Fox, Delaware, and Quapaw on December 15-17, 2009.

Performed Jemez audit December 29<sup>th</sup> 2009.

Assisted Jason Pruner, Delaware Nation, with ozone parts inventory and PM10 filter exchange troubleshooting October 8-9, 2009.

#### ***Task 9: EI Preparation, Training, and IPP Development Quarterly Report***

The IPP has been completed and submitted to EPA R6.

The EI QAPP is currently under development and will be submitted in February 2010.

#### ***Task 10: Monitoring Network Data Management and Analysis Quarterly Report***

All applicable site data was submitted to AQS for accuracy and compliance purposes.

No violations of the air standards were observed (for full information see the AQS database).

#### ***Task 11: CNEP Professional Training and Development Quarterly Report***

EPA National Air Quality Conference, Nashville, TN. – November 2<sup>nd</sup>-5<sup>th</sup>, 2009.

EPA Tribal Summit and RTOC, Albuquerque, NM. – December 2<sup>nd</sup> – 4<sup>th</sup>, 2009.

Attended ITEP Improve and Protect Course December 8-10, 2009



### ***Task 12: Tribal Air Monitoring Grant Objectives & Priorities***

Any applicable monitoring or grant requirements were conducted according to the outline in Task 12 per the CNEP grant.

### ***Task 13: Energy Production Funds and Ambient Air Monitoring Quarterly Report***

Energy production funds were utilized for staffing time to provide maintenance and normal operational procedures for the Newkirk and Pryor sites. These sites are close proximity to two coal fired power plants. The Newkirk site is collocated with the Cherokee Nation Department of Energy (DOE) wind energy study. Meteorological data from the Newkirk station is also utilized for this DOE study. Maintenance was conducted on both sites this quarter. Various instrument consumable supplies were purchased for annual maintenance.

### ***Task 14: Sampling and Analysis of Toxic Metals at NCORE***

CNEP has requested that this task be suspended until the CNEP contract lab (ERG) has established an approved analytical analysis method for metals (specifically lead).

Currently metals or lead sampling isn't a requirement at NCORE sampling locations.

### ***Task 15: Relocate the Marble City station to Roland Oklahoma.***

CNEP is in the process of researching suitable sites.

Funding for the relocating of the station will be utilized from Task 6 and 14 related funding.

CNEP has developed a MOA with Cherokee Nation Entertainment for use of a site at Roland Oklahoma.

### ***MISCELLANEOUS***

EPA Region 6 staff visited the Stilwell site on October 7<sup>th</sup>-9<sup>th</sup>, 2009. Staff included Mark Sather, Regina Krystyn, Johnson Matthew, and CNEP staff. A thorough site tour and discussion of FY10 activities were discussed.

Mark Sather provided CNEP with a copy of the EPA concurrence on ozone violations that occurred earlier in the year.

CNEP is coordinating with ODEQ and EPA on the possibility of relocating the Marble City site to Roland Oklahoma to assist Oklahoma and Arkansas with the new MSA ozone monitoring requirements in 2011.

Developed a MOU with Cherokee Nation Entertainment for land use at Roland Oklahoma.

Participation in the monthly EPA Tribal air monitoring conference calls.

Kent Curtis retired from CNEP on November 11<sup>th</sup>, 2009.

Dani Keese returned to the CNEP air program on November 16<sup>th</sup>, 2009.

Phillip Ketcher joined the CNEP air staff as an Environmental Technician (T-FT) on November 30<sup>th</sup>, 2009.

Cherokee Nation purchased and remodeled (non-air funds) a new modular lab and office space for the CNEP air program. Located behind 208 E. Allen Road Offices.